Matching Questions

Match the term with the appropriate phrase. You may use each answer once, more than once or not at all.

A) tidal current  
B) tidal force  
C) tidal pattern

1) centripetal

2) diurnal

3) ebb

4) gravitational

5) mixed

6) resultant

7) rotary

Match the term with the appropriate phrase. You may use each answer once, more than once or not at all.

A) spring tide  
B) neap tide  
C) cotidal point  
D) tidal current  
E) ebb current  
F) tidal bore  
G) amphidromic point  
H) flood current

8) center of an open ocean tidal system

9) highest tidal range in the lunar cycle

10) smallest tidal range in the lunar cycle

11) steep wave front surging up a river as a result of tides

12) water moving out from an inlet due to approaching low tide

True/False Questions

13) The tide-generating force is inversely proportional to the cube of the distance.
14) There is no horizontal tide-generating force on Earth at points directly below and opposite the Moon.

15) A spring tide occurs once per month.

16) Syzygy produces maximum tides once every 1,600 years if the relative positions of the sun to the Earth and the moon to the Earth are just right.

17) The plane through the ellipse that marks the revolution of the Earth around the Sun is called the ecliptic.

18) A tidal pattern with one high tide and one low tide each lunar day is called a semidiurnal tidal pattern.

19) A diurnal tidal pattern is common along the Pacific coast of the United States.

20) The seaward flow of water through an inlet (such as a bay or river) due to tidal forces is called an ebb current.

21) The energy of tidal currents can be harnessed to drive turbines and generate electricity.

**Multiple Choice Questions**

22) The barycenter follows:
   A) a path that is perpendicular to the Earth's ecliptic.
   B) a pattern that parallels the Moon's orbit.
   C) a smooth orbit around the Sun.
   D) a wavy path around the Sun.
   E) the Earth's declination.

23) The difference between centripetal forces and gravitational forces is called the:
   A) diurnal force.
   B) dynamic force.
   C) solar force.
   D) resultant force.
   E) tidal force.

24) If the resultant force has a significant horizontal component (tangential to Earth’s surface), it produces tidal bulges on Earth, creating what are known as:
   A) tide-generating forces.
   B) solar bulges.
   C) lunar bulges.
   D) resultant forces.
   E) centripetal forces.

25) A full lunar tidal cycle is:
   A) 12 hours in duration.
   B) 12 hours 25 minutes in duration.
   C) 24 hours in duration.
   D) 24 hours and 50 minutes in duration.
   E) 48 hours in duration.
26) The vertical difference between consecutive high and low tides is called the:
A) ebb tide.
B) flood tide.
C) tidal bore.
D) tidal height.
E) tidal range.

27) Spring tide occurs about:
A) once per month.
B) once per season.
C) once per year.
D) twice per month.
E) twice per year.

28) Neap tides occur:
A) at summer and winter solstice.
B) during a storm surge.
C) when the moon is full or new.
D) when the moon is in quadrature.
E) when the sun is at perihelion or aphelion.

29) When the Earth is at its greatest distance from the sun, it is said to be at:
A) apogee.
B) aphelion.
C) perigee.
D) perihelion.
E) proxigean.

30) The center of an open ocean tidal system is called a/an:
A) amphidromic point.
B) cotidal center.
C) rotary center.
D) seiche.
E) tidal flux.

31) An area that experiences diurnal tides will have:
A) one high tide and one low tide daily.
B) one high tide and two low tides daily.
C) one low tide and two high tides daily.
D) two high tides and two low tides of nearly equal height daily.
E) two unequal low and high tides daily.

32) In the United States semidiurnal tides commonly occur along the:
A) Atlantic coast.
B) Gulf of Alaska.
C) Gulf of Mexico coast.
D) Florida Keys.
E) Pacific coast.
33) The Bay of Fundy is well known for which tidal characteristic?
A) a diurnal tide
B) two amphidromic points
C) very large seiche
D) very low tidal range
E) very high tidal range

34) Water flowing out of an enclosed basin due to the tides is called a/an:
A) ebb current.
B) flood current.
C) neap tide.
D) spring tide.
E) tidal bore.

35) A tidal current can produce a rapidly spinning body of water called a vortex or:
A) ebb current.
B) flood current.
C) shoal.
D) tidal bore.
E) whirlpool.

36) Which of the following statements concerning tides are true?
A) At perigee, tidal ranges are minimized.
B) Diurnal tides are a tidal pattern in which there is one high tide and one low tide in a lunar day.
C) Mixed tides are a tidal pattern in which there are two high and low tides daily of approximately equal tidal heights.
D) Neap tides occur when the solar tide and the lunar tides are additive, producing the highest high tide and lower low tides.
E) Semidiurnal tides are a tidal pattern in which there are two high tides and two low tides per lunar day, one high tide higher than the other.

Word Relationships
Examine the five words and/or phrases and determine the relationship among the majority of words/phrases. Choose the one option that does not fit the pattern.

37)
A. aphelion
B. nadir
C. apogee
D. perigee
E. perihelion

38)
A. diurnal
B. semidiurnal
C. mixed
D. quadrature
E. mixed semidiurnal